

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (currently amended) A process for the continuous refining of litharge having a starting content of free-metallic lead of about 1 to about 30 % by weight to litharge having a residual reduced content of free-metallic lead of less than about 10 % by weight in a reaction section (4) of a loopreactor (1), by comprising steps of:

introducing a first fluidized mixture of said lead containing lead oxide stream, the first fluid stream comprising a solid feedstock material and a first gaseous fluid, into said reaction section (4) of said loopreactor (1) via an inlet section (2), wherein said solid feedstock material comprises lead oxide and metallic lead,

further introducing said a second fluid stream comprising said first gaseous fluid into said reaction section (4) via a by-pass section (3), said by-pass section (3) being located in the reaction section (4) of said loopreactor (1) downstream to said inlet section (2),

mixing said first fluidized mixture stream with said first gaseous second fluid stream in said reaction section (4) by propelling the first fluid stream and second fluid stream to form a the resultant, still-reacting mixture in a direction which is essentially tangential to the initial direction of said first fluidized mixture stream, thereby reacting at least a portion of the solid feedstock material with said first gaseous fluid, the particles of lead containing lead oxide with said first gaseous fluid,

passing said resultant, still-reacting mixture through a curved path (4a, 4b) in said reaction (4) section, the curved path (4a, 4b) being defined by a tractrix antifriction curvature through a classification section (5) which is defined partially by a continuation of said tractrix curvature, said resultant, still-reacting mixture being divided into heavier particles containing a partially reduced, higher content of non-reacted metallic lead and lighter particles containing a partially reduced lower content of non-reacted metallic lead with said classification section (5),

adjusting the number of reaction cycles by adjusting the particle velocity, reaction time and reaction temperature within said reaction section (4) to provide the desired reduced residual

content of metallic lead of said lead oxide when passing ~~the~~an outlet section (5), separating said lighter particles from the classification section (5) via said outlet section (6) by introducing a second gaseous fluid via an injection section (7) into said reaction section (4) at a location downstream to said outlet section (6) to reaccelerate the particle velocity and to interfere with said first fluid stream, said resultant still-reacting mixture and said second fluid stream.~~introduced first and second mixture of feedstock material and first gaseous fluid being provided to said reaction section (4) by the inlet section (2) and said first gaseous fluid introduced by the by pass section (3).~~

2. (currently amended) The Pprocess according to claim 1, whereinby said solid feedstock material lead oxide is introduced into the loopreactor via the inlet section (2) having a starting content of metallic lead exceeding about 10% by weight.

3. (currently amended) The Pprocess according to claim 1, whereinby the weight ratio of the solid feedstock material to the second fluid stream~~first gaseous fluid introduced to the reaction section (4) by the inlet section (2)~~ is selected in the range of about 1 : about 1 to about : about 3.

4. (currently amended) The Pprocess according to claim 1, whereinby said first gaseous fluid is an oxygen containing gas.

5. (currently amended) The Pprocess according to claim 1, whereinby said first gaseous fluid is air.

6. (currently amended) The Pprocess according to claim 1, ~~whereby~~wherein the first fluid stream and the second fluid stream~~mixture of said feedstock material and said first gaseous fluid is~~ are introduced into the reaction section (4) at a temperature selected in the range of about 630 to about 670 °C.

7. (currently amended) The Pprocess according to claim 1, whereinby the first fluid stream and the second fluid stream~~mixture of said feedstock material and said first gaseous fluid~~

~~is~~are introduced into the reaction section (4) having a velocity selected in the range of about 5,000 ft/min to about 20,000 ft/min.

8. (currently amended) The Pprocess according to claim 1, wherein~~by~~ volume ratio of the first fluid stream relative to the second fluid stream ~~said mixture of said feedstock material and said first gaseous fluid provided by the inlet section (2) relative to the volume of said first gaseous fluid introduced by the by pass section (3)~~ is selected in the range of about 10 : about 1 to about 3 : about 1.

9. (currently amended) The Pprocess according to claim 1, wherein~~by~~ the reaction temperature in the reaction section is adjusted in the temperature range of about 600 to about 670 °C.

10. (currently amended) The Pprocess according to claim 1, wherein~~by~~ the volume ratio of the combined volume of the first fluid stream and the second fluid stream ~~the combined volume of said mixture of said feedstock material and said first gaseous fluid provided by the inlet section (2) and said first gaseous fluid introduced by the by pass section (3)~~ relative to the volume of the second gaseous fluid injected by the injection section (7) is selected in the range of about 100: about 0,~~+~~1 0.1 to about 100: about 10.

11. (currently amended) The Pprocess according to claim 1, where~~by~~wherein said second gaseous fluid is air at ambient temperature, introduced with a velocity selected in the range of about 5,000 ft/min to about 6,000 ft/min.

12. (currently amended) The Pprocess according to claim 1, wherein~~by~~ the reaction time of the solid feedstock material within the loopreactor (1) is adjusted in the range of about 1 to about 5 sec.

13. (currently amended) The Pprocess according to claim 1, wherein~~by~~ the overall volume load of the loopreactor is adjusted to about 25 to about 50 % by volume, based on the solid feedstock material.

PATENT

Attorney Docket No.: 62678.000002

14-21. (canceled).